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HISTORICAL DRAINAGE CHANNEL ANALYSIS OF
SPRING VALLEY SITE

Washington, D.C.

by

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ABSTRACT

This report presents the findings of an historical drainage channel analysis for the Spring Valley site located in Washington, D.C. The purpose of this analysis is to document pre-urban development drainage channel and possible seep locations in the Spring Valley site. The analysis was performed using of black-and-white aerial photographs from six years spanning 1918 to 1937. This report was produced to support remedial investigations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Collateral information supplied by the U.S. Environmental Protection Agency (EPA) Region 3 states that, in 1993, possible chemical munitions and other munitions from World War I were unearthed at the formerly used defense site known as the American University Experiment Station. During World War I American University and property surrounding it was used to conduct research and small-scale testing of chemical warfare items.

The drainage analysis identified three westward-flowing drainage channel networks, one each in the north, central, and southern sections of the site. Two possible seeps were also identified in the western section of the site. An attempt was made to perform a fracture trace analysis of the site and nearby surrounding areas. It was not possible to perform this analysis, however, due to a lack of adequate film.

The EPA, Environmental Sciences Division, Landscape Ecology Branch in Las Vegas, Nevada, prepared this report for the EPA Region 3 Hazardous Waste Management Division in Philadelphia, Pennsylvania, and the EPA Office of Emergency and Remedial Response in Washington, D.C.

Surface flow from the west-central section of the site is carried to the northwest via a short, central drainage channel network towards the Dalecarlia Reservoir.

The southern drainage channel network carries surface flow from the southern section of the site, including the southern portion of the American University Experimental Station, towards the Dalecarlia Reservoir. In addition, two possible seeps were identified near the headwaters of the two tributaries of the southern drainage channel.

Note: A set of six aerial photographs from 1918, 1922, 1927, 1928, 1936, and 1937 were used to perform the drainage channel analysis. Findings from the analysis are presented on Figure 2, a photomosaic produced from the 1927 photographs. Variability in frame orientations have caused seams in the photomosaic; such incongruities, along with film imperfections, are annotated on the overlay. Thus, these visual anomalies and image processing artifacts should not be confused with actual analytical findings also annotated on the overlays.

REFERENCES

MAPS

Source ^a	Figure	Name	Scale	Date
USGS	1	Washington West, D.C.-MD-VA	1:25,400	1983

COLLATERAL INFORMATION

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- R.W. James, Jr., Maryland and the District of Columbia; Surface-Water Resources, U.S. Geological Survey Water Supply Paper 2300, Maryland and District of Columbia <http://md.water.usgs.gov/publications/wsp-2300/wsp-2300-md-dc.html>

AERIAL PHOTOGRAPHS

Photo source ^a	Figure	Date of acquisition	Original scale	Film type ^b	Mission I.D.	Source frame #	EPIC ID #
NARA	-	08-17-18	1:7,500	B&W	-	-	-
	-	00-00-18	-	B&W	-	-	-
COE	-	00-00-22	Unknown	B&W	-	-	-
EPA	2	00-00-27	1:10,000	B&W	-	-	15177,15179, 15180,15181, 15182
COE	-	04-13-28	Unknown	B&W	-	-	-
NARA	-	02-08-36	Unknown	B&W	-	-	-
NARS	-	04-30-37	1:20,000	B&W	-	-	-

- ^aCOE U.S. Army Corps of Engineers, Washington, D.C.
EPA U.S. Environmental Protection Agency, Environmental Sciences Division, Las Vegas, Nevada
NARA National Archives and Records Administration, Washington, D.C.
NARS National Archives and Records Service, Washington, D.C.
USGS U.S. Department of Agriculture, Agricultural Stabilization and Conservation Service, Salt Lake City, Utah
- ^bB&W Black-and-white